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CLAIMS

What is claimed is:

1. A bearing and bearing retaining structure, comprising:
a bearing pocket defining a bearing opening for receiving the bearing therein, said bearing pocket having a single shoulder for supporting the bearing and a unitary outer wall extending therefrom, said unitary outer wall defining a portion of said bearing pocket, said unitary outer wall being defined by a uniform inner diameter corresponding to an outer diameter of the bearing;
and
a retention feature for retaining the bearing in said bearing pocket, said retention feature being formed from a portion of said outer wall after the bearing is inserted in said bearing opening, wherein said retention feature is formed using a radial riveting process by applying a tool under force to an outer surface of said outer wall after the bearing is inserted into said bearing pocket.
2. The bearing and bearing retaining structure as in claim 1, wherein the portion of said unitary outer wall from which said portion is formed extends past the bearing when the bearing is inserted in said bearing opening and the portion comprises an end portion of said unitary wall.
3. The bearing and bearing retaining structure as in claim 2, wherein only a portion of the portion of said unitary outer wall from which said portion is formed is used to retain the bearing.
4. The bearing and bearing retaining structure as in claim 1, wherein said outer wall is formed from aluminum.

5. The bearing and bearing retaining structure as in claim 1, wherein said unitary outer wall is circular in shape and completely surrounds the periphery of the bearing when the bearing is inserted within an area defined by said unitary outer wall.

6. The bearing and bearing retaining structure as in claim 1, wherein said retention feature makes contact with an entire periphery of an outer race of the bearing.

7. The bearing and bearing retaining structure as in claim 1, wherein said retention feature comprises a pair of retention features each being formed from said outer wall and one of said pair of retention features each being positioned on one side of the bearing and the other one of said pair of retention features being positioned on another side of said bearing.

8. A method for forming a bearing retaining structure for retaining a bearing therein, comprising:

providing a bearing pocket having a single shoulder for supporting an outer race of the bearing and a unitary outer wall extending therefrom, said unitary outer wall being formed of deformable material and having a uniform inner diameter corresponding to an outer diameter of the bearing;

inserting the bearing into a bearing pocket defined by said unitary outer wall and said single shoulder;

forming a retaining member from said unitary outer wall, said retaining member retaining said bearing in said bearing pocket, wherein said retaining member is formed by a radial riveting process by applying a tool to said outer wall after said bearing is inserted into said bearing pocket.

9. The method as in claim 8, wherein said tool is applied to said unitary outer wall by a radial riveting machine, said radial riveting machine applies a force to said tool for forming said retaining member.
10. The method as in claim 8, wherein said tool has a forward contact edge for making contact with an end portion of said unitary outer wall which extends past the bearing, said forward contact edge having a convex shape.
11. The method as in claim 10, wherein said tool follows a rosette pattern during the formation of said retaining member.
12. The method as in claim 8, wherein retaining member is a retention feature formed by said tool following a rosette pattern.
13. The method as in claim 12, wherein said retention feature makes contact with an entire periphery of an outer ring member of said bearing.
14. The method as in claim 13, wherein said retention feature is formed from a deformable material.
15. The method as in claim 14, wherein said deformable material is aluminum and said tool is applied to said unitary outer wall by a force in a range defined by 25 to 65 psi.
16. A bearing and bearing retaining structure, comprising:
a bearing pocket defining a bearing opening for receiving the bearing therein, said bearing pocket having a single shoulder for supporting the

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bearing and a unitary outer wall extending therefrom, said unitary outer wall having a uniform inner diameter corresponding to an outer diameter of the bearing, said unitary outer wall defining a portion of said bearing pocket; and
a retaining member for retaining the bearing in said bearing pocket, said retaining member being formed from a portion of said unitary outer wall after the bearing is inserted in said bearing opening, wherein said retaining member is formed using a radial riveting process by applying a tool under force to an outer surface of said wall after the bearing is inserted into said bearing pocket.

17. A bearing and bearing retaining structure as in claim 16, wherein said retaining member is a retention feature making contact with an entire periphery of outer race of the bearing.

18. A bearing and bearing retaining structure as in claim 16, wherein said retaining member is formed from a portion of said unitary outer wall which extends past the bearing when the bearing is inserted in said bearing opening.

19. A bearing and bearing retaining structure as in claim 18, wherein said retaining member makes contact with an entire periphery of a portion of the bearing.

20. The bearing and bearing retaining structure as in claim 1, wherein said unitary outer wall comprises a plurality of arcuate shaped members each being defined by an inner diameter wherein said inner diameter corresponds to an outer diameter of the bearing.